

Application No: 09/681,008
Filed: November 15, 2000
Group: 2881

This listing of claims will replace all prior versions and listings of claims in this application:

a.) Listing of Claims

1. (Currently Amended) An optical scanning apparatus in a confocal scanning microscope for optical scanning of multiple specimens comprising:

a specimen receiving device for holding a plurality of the specimens, the specimen receiving device defining an axis of rotation, the specimen receiving device being linearly displaceable and being rotatable about the axis of rotation; and

a scanning device provided for optically scanning the plurality of specimens, the scanning device defining a further axis, the scanning device being linearly displaceable and being rotatable about the further axis, the scanning device being arranged movably relative to the specimen receiving device.
2. (Previously Amended) The apparatus as defined in Claim 1, wherein the scanning device or the specimen receiving device is linearly displaceable and wherein the scanning device defines a movement in a first radial direction and the specimen receiving device defines a movement in a second radial direction, and the relative movement between scanning device and specimen receiving device resulting from the first radial direction and the second radial direction is linear.
3. (Previously Cancelled)
4. (Previously Amended) The apparatus as defined in Claim 1, wherein an optical distance between a specimen and the scanning device remains substantially constant during a relative motion between the scanning device and the specimen receiving device.
5. (Previously Amended) The apparatus as defined in Claim 1, wherein the specimen receiving device defines a rotation speed of the specimen receiving device, and the

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rotation speed is dependent on the relative position between the specimen receiving device and the scanning device.

6. (Previously Amended) The apparatus as defined in Claim 5, wherein the rotation speed is dependent on a detected data stream of the scanning device.

7. (Cancelled)

8. (Previously Amended) The apparatus as defined in Claim 1, wherein the specimen receiving device receives a single, replaceable specimen vessel.

9. (Previously Amended) The apparatus as defined in Claim 1, wherein the specimen receiving device receives a replaceable carousel insert.

10. (Previously Amended) The apparatus as defined in Claim 9, wherein the carousel insert receives individual specimen holders.

11. (Previously Amended) The apparatus as defined in Claim 10, wherein the individual specimen holders are positionable in a predefinable plane on the carousel insert with retaining means.

12. (Previously Amended) The apparatus as defined in Claim 10, wherein the individual specimen holders are positioned resiliently.

13. (Previously Amended) The apparatus as defined in Claims 1, wherein an auto focusing means is provided for maintaining the specimens in focus.

14. (Previously Amended) The apparatus as defined in Claim 13, wherein the auto focusing means maintains the surface of the rotating specimen receiving device or of the specimen vessel or of the specimen holders located in the carousel insert always within a deviation of less than 20 μm in the direction of the optical axis of the scanning device

15. (Previously Amended) The apparatus as defined in Claim 1, wherein at least one laser beam is provided for scanning the specimens and at least one detector detects the light reflected from the specimens.

16. (Previously Amended) The apparatus as defined in Claim 15, wherein the laser beam scans in at least one direction.

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17. (Previously Amended) The apparatus as defined in Claim 15, wherein the laser beam is stationary relative to the scanning device.
18. (Previously Amended) The apparatus as defined in Claim 15, wherein the laser beam provided for scanning can be of different wavelengths.
19. (Previously Amended) The apparatus as defined in Claim 15, wherein the laser beam has an axial extent of the focus region in the specimen region of less than 40 μ m.
20. (Previously Amended) The apparatus as defined in Claims 15, wherein the laser beam has a lateral extent of the focus region in the specimen region in a range between 5 μ m and 200 μ m.
21. (Previously Amended) The apparatus as defined in Claims 15, wherein the laser beam defines a non-zero incidence angle on the surface of the specimen receiving device or the specimen vessel or the specimen holders.
22. (Previously Amended) The apparatus as defined in Claim 14, further comprising synchronization markers provided on the specimen receiving device or the specimen vessel or the carousel insert.